

Radio Transient Neutron Stars

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Most radio pulsars show more-or-less continuous trains of pulses, making it very easy to discover them with periodicity searches, and to measure their rotation properties. However, recently, a new radio transient phenomenon has been discovered, a class of new objects called Rotating Radio Transient sources (known as RRATs) which produce occasional radio flashes only a few milliseconds in duration, with mean intervals between them ranging from a few minutes to a few hours. Undetectable by periodicity searches, 11 RRATs have been found, although careful analysis has revealed underlying periodicities in 10 of them. The median period of over 4 seconds is nearly an order of magnitude greater than that of normal pulsars. Their ephemeral nature makes them difficult to find and suggests that they are more numerous than normal pulsars by a factor of a few. We discuss their possible relationships to other neutron star populations.